UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) _____ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) _52_ is/are allowed.

6) ☒ Claim(s) _1,3-11,13-15,20-32,36-43,45-48 and 51_ is/are rejected.

7) ☒ Claim(s) _2,12,16-19,33-35,44,49 and 50_ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4 5 6

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 13 is objected to because of the following informalities: claim 13 is same

as claim 9. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 5-6,27-32, and 36 are rejected under 35 U.S.C. 103(a) as being obvious

over Symonds et al. (Hereafter, Symonds) U.S. 6,039,245 in view of Colyer U.S.

6,023,722.

3.   Regarding claims 1 and 27, Symonds discloses in Figures 1-2 a message queue

management system configured to manage a plurality of queues including a first message

queue of a first data store type and a second message queue of a second data store type,

wherein the first message queue and the second message queue exhibit consistent

behavior across a plurality of computer mediums (col. 1 lines 19-26), the message queue

management system comprising: a journaling module (col. 7 lines 33-40 and col. 8 lines

37-40) configured to track and manage message states of messages stored in the first

message queue and the second message queue (32) including a journalled state whereby

journalled messages are retained in the first message queue and the second message

queue; a once-only message processing module (col. 9 lines 55-61) configured to track a

plurality of message states to prevent re-processing of previously processed messages

stored in the first message queue and the second message queue; an interoperability

module (30) configured to coordinate interactions among the plurality of queues enabling

a distributed workflow (col. 7, lines 16-26); a recovery module (62 and 64) configured to

perform data recovery on the plurality of queues upon the event of a failure (col. 9 lines

62 through col. 10, lines 5); a central managing module (62) configured to provide single

point control of the plurality of queues, wherein the single point control includes

controlling a plurality of publishers (32 as databases) and a plurality of subscribers (e.g.

POS terminals). Symonds fails to teach in Figures 1-2 a load balancing module

configured to designate a subset of the plurality of subscribers to at least the first message

queue in a subscriber pool such that messages in the first message queue are processed by

a first available subscriber in the subscriber pool. However, Colyer discloses in Figure 1

an architecture of known load balancing module configured to designate a subset of the

plurality of subscribers to at least the first message queue in a subscriber pool such that

messages in the first message queue are processed by a first available subscriber in the

subscriber pool (31). Therefore, it would have been obvious to a person having ordinary

skill in the art at the time the invention is made to add a load balancing module as seen in

Colyer's invention into Symonds's invention because it would enable to enhance the

system performance by avoiding single point of failure.

4.   Regarding claims 5-6 and 29-30, they have limitations as load balancing as cited

in claim 1. Thus, claims 5-6 are also rejected under the same rationale as cited in the

rejection of rejected claim 1.

5.   Regarding claim 28, Symonds further discloses in Figures 1-2 the message queue

is configurable to run on a plurality of platforms (30) (col. 7, lines 22-26).

6.   Regarding claim 31, Symonds further discloses the message information includes

a message identifier and a message header (inherent format) (Figure 4).

7.   Regarding claim 32, Symonds further discloses in Figures 1-2 the message header

includes message state information (Figure 4).

8.   Regarding claim 36, Symonds further discloses in Figures 1-2 the message state

information is stored in a log that includes time stamps for the corresponding message

states (60) (col. 9, lines 55-61; and col. 11, lines 6-48).

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10.   Claims 3-4, 7-11, 13-15, 20-26, and 37-46 are rejected under 35 U.S.C. 102(e) as

being anticipated by Symonds et al (Hereafter, Symonds) U.S. 6,039,245.

11.   Regarding claim 3, Symonds discloses in Figures 1-2 a message queuing system

for computer networks that provides reliable communication, ensures non-repetitive

delivery, and is implemented in a medium independent environment (abstract), the

message queuing system comprising: a message queue (32 and 58) configured to run on

one of a plurality of environments and to store messages received from message

publishers and monitor retrieval by a plurality of message subscribers wherein a message

is retained in the message queue after at least one of the plurality of message subscribers

has accessed the message to permit additional access to the message (col. 7, lines 32-43

and lines 62 through col. 8, lines 3; and col. 9, lines 45-53); a message state module (50,

62, and 64) configured to track message states of a message wherein message state

information indicates whether the message has been made available to and retrieved by at

least one of the plurality of the message subscribers (col. 8, lines 56-65; col. 9, lines 63

through col. 10, 1st paragraph); a recording module configured (62) to selectively retain

the message state information related to corresponding messages at least until the

message is removed from the message queue (col. 9, lines 63 through col. 10, 1st

paragraph); and an interface module configured (30 and 34) to receive and send a

plurality of types of data objects in messages and to communicate with a plurality of

types of data messaging systems that act as message publishers or message subscribers

(col. 7, 2nd paragraph, and lines 44-50).

12.   Regarding claim 4, Symonds further discloses in Figures 1-2 at least one of the

plurality of the data messaging systems acts as both a message publisher and a message

subscriber (data to and from 32 and 34).

13.   Regarding claim 7, Symonds further discloses in Figures 1-2 the message state

information is used to ensure that messages are acquired in the designated order by at

least one of the plurality of message subscribers (24, 38, and 40) (col. 6, lines 29-36; and

col. 8, lines 4-20).

14.   Regarding claims 8,9, and 13, Symonds further discloses in Figures 1-2 a message
is intended for a single/plurality message subscriber(s) (18) (col. 6, lines 10-20).

15.   Regarding claim 10, Symonds further discloses the message is deleted from the
message queue during a designated clean up process (col. 37, 2nd paragraph).

16.   Regarding claim 11, Symonds further discloses in Figures 1-2 the message is
retained in the message queue to assist in recovery of messages during a system failure
(62 and 64) (col. 9, last paragraph through col. 10, 1st paragraph).

17.   Regarding claim 14, Symonds further discloses in Figures 1-2 the message state
information includes message publisher state information and corresponding message
subscriber state information (col. 9, last paragraph through col. 10, 1st paragraph).

18.   Regarding claim 15, Symonds further discloses in Figures 1-2 the message state
information is stored within the message (col. 9 lines 63-68).

19.   Regarding claim 20, Symonds further discloses in Figures 1-2 the message queue
is configured to interface with a plurality of different database protocols (32) (col. 7, lines
32-42; and col. 7, last paragraph through col. 8, 1st paragraph).

20.   Regarding claim 21, Symonds further discloses in Figures 1-2 at least one of the
types of a plurality of data messaging systems is a database (col. 7, lines 32-42; and col.
7, last paragraph through col. 8, 1st paragraph).

21.   Regarding claim 22, Symonds further discloses in Figures 1-2 at least one of the
types of a plurality of data messaging systems is a flat file directory (col. 7, lines 32-42;
and col. 7, last paragraph through col. 8, 1st paragraph).

22.   Regarding claim 23, Symonds further discloses in Figures 1-2 at least one of the types of a plurality of data messaging systems is a second message queuing system col. 9, lines 45-61).

23.   Regarding claim 24, Symonds further discloses in Figures 1-2 at least one of a plurality of data objects is a database record (col. 7, lines 32-42).

24.   Regarding claim 25, Symonds further discloses in Figures 1-2 at least one of a plurality of data objects is an electronic mail message (Other applications in Figure 2).

25.   Regarding claim 26, Symonds further discloses in Figures 1-2 at least one of a plurality of data objects a web page (Other applications in Figure 2; col. 8, lines 56 through col. 9, 1st paragraph).

26.   Regarding claim 37, Symonds discloses in Figures 1-2 a method for journalling a plurality of messages in a message queue, wherein the plurality of messages include a plurality of corresponding message states, the method comprising: receiving a message (listener in Figure 1), wherein the message includes a publisher message state and a subscriber message state; placing the message in a message queue (queues in Figure 1); changing the publisher message state of the message to a journalled state (MPP A) (col. 6, lines 43-53); and retaining the message in the message queue (Figures 19 and 28; col. 36, lines 24-51).

27.   Regarding claim 38, Symonds further discloses in Figures 1-2 changing the subscriber message state of the message to a terminal state to prevent re-processing of the message (status 64 as seen in Figure 2).

28.   Regarding claim 39, Symonds discloses in Figures 1-2 method of subscriber pooling a plurality of messages in a message queue, wherein the plurality of message

includes corresponding publisher states, the method comprising: placing a message in a

message queue (queues in Figure 1); informing a plurality of subscribers that the message

is available (col. 20, lines 38-49); and upon retrieval by one of the plurality of

subscribers, preventing other of the plurality of subscribers from retrieving the message

by changing the publisher message state to a terminal state (48 and 62).

29.   Regarding claim 40, Symonds discloses in Figures 1-2 a system for message

queuing among a plurality of message publishers and a plurality of message subscribers,

the system comprising: a message queue module (queues in Figure 1) configured to

communicate with a plurality of message publishers and a plurality of message

subscribers and to receive a data object from a message publisher intended for at least

one of a plurality of message subscribers (col. 7, 2nd paragraph, and lines 44-50); a data

object processing module (28, 38, and 40) configured to process the data object to create

a corresponding message wherein the corresponding message includes the data object and

message information (Figure 4); a publisher tracking module (62 and 64) configured to

track the status of the message from the perspective of the message publisher (col. 9 lines

55-61); a plurality of subscriber tracking modules configured to track the status of the

message from the perspective of the at least one of a plurality of intended message

subscribers (col. 9 lines 55-61); and a message tracking module configured to selectively

retain the message to remain in the message queue after the message has been retrieved

by the at least one of a plurality of intended message subscribers (Figures 19 and 28; col.

36, lines 24-51).

30.   Regarding claim 41, it is the system claims of claim 29. Thus, claim 41 is also

rejected under the same rationale as cited in the rejection of rejected claim 29.

31.   Regarding claim 42, it is the system claims of claim 30. Thus, claim 42 is also

rejected under the same rationale as cited in the rejection of rejected claim 30.

32.   Regarding claim 43, it is the system claims of claim 31. Thus, claim 43 is also

rejected under the same rationale as cited in the rejection of rejected claim 31.

33.   Regarding claim 45, it is the system claims of claim 32. Thus, claim 45 is also

rejected under the same rationale as cited in the rejection of rejected claim 32.

34.   Regarding claim 46, it is the system claims of claim 36. Thus, claim 46 is also

rejected under the same rationale as cited in the rejection of rejected claim 36.

35.   Claims 47-48 and 51 are rejected under 35 U.S.C. 103(a) as being obvious over

Symonds et al. (U.S. 6,039,245) in view of Clarke et al. (W.O. 95/10805).

36.   Regarding claims 47 and 51, Symonds discloses in Figures 1-2 a method for

queuing messages received from a publisher for retrieval by a subscriber comprising:

storing messages using a queue (queues in Figure 1) and a queue interface module

wherein the queue interface module is configurable to interface with a plurality of

database protocols (interface of 26 or 24); extending message storage (32 and 58) beyond

the time in which the message has been retrieved by all intended subscribers (col. 17,

lines 64 through col. 18, lines 7). Symonds fails to teach tracking message states to

enforce once-only delivery. However, Clarke discloses in the abstract a method of

tracking message states to enforce once-only delivery (lines 7-11). Therefore, it would

have been obvious to a person having ordinary skill in the art at the time the invention is

made to add tracking message states to enforce once-only delivery as seen in Clarke et

al.'s invention into Symonds's invention because it would enable to enhance the system

performance by reducing transmission.

37.   Regarding claim 48, tracking message states includes tracking information related

to message publisher states and message subscriber states (col. 28, lines 8-32).

38.   Regarding claim 51, it is the system claims of claim 47. Thus, claim 51 is also

rejected under the same rationale as cited in the rejection of rejected claim 47.

Allowable Subject Matter

39.   Claim 52 is allowed.

40.   Claims 2, 12, 16-19, 33-35, 44, and 49-50 are objected to as being dependent

upon a rejected base claim, but would be allowable if rewritten in independent form

including all of the limitations of the base claim and any intervening claims.

Conclusion

41.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

        Symonds U.S. Patent No. 6,302,326 discloses a financial transaction processing

system and method.

        Gilbert U.S. Patent No. 5,530,848 discloses a system and method for

implementing an interface between an external process and transaction processing

system.

        Hafner U.S. Patent No. 5,893,076 discloses a supplier driven commerce

transaction processing system and methodology.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Phuoc H. Nguyen whose telephone number is 703-305-

5315. The examiner can normally be reached on Mon -Thu (7AM-4: 30PM) and off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on 703-308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuoc H. Nguyen
Examiner
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September 23, 2004

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